

CLAIMS

What is claimed is:

1. A method of recording and/or reproducing data with respect to an information storage medium having a lead-in area, a user data area, and a lead-out area, the method comprising:

detecting compatibility information from at least one of the lead-in and lead-out areas about whether the information storage medium is compatible with a drive following a first version of standards older than a second version of the information storage medium; and

transferring data with respect to the user data area in accordance with one of the first and second versions from the detected compatibility information which corresponds to a device which is transferring the data.

2. The method of claim 1, wherein, for when the information storage medium is operable in the drive following the first version of the standards, the information storage medium stores information about an optimal writing pattern.

3. The method of claim 1, wherein the information storage medium further stores strategy information about which one of a multi-pulse write strategy and a single-pulse write strategy is used to record data, the transferring the data further comprising recording the data according to the stored strategy information.

4. The method of claim 1, wherein at least one of the lead-in and lead-out areas includes a reproduction-only area, and the compatibility information is detected from the reproduction-only area.

5. The method of claim 4, wherein the reproduction-only area is a disk control data zone which stores disk-related information used to control the information storage medium.

6. The method of claim 4, wherein the detecting the compatibility information comprises reproducing the compatibility information as one of a sum signal and a differential signal.

7. The method of claim 1, wherein at least one of the lead-in and lead-out areas includes a recordable area, and the compatibility information is detected from the recordable area.

8. The method of claim 7, wherein the compatibility information is reproduced as a sum signal.

9. The method of claim 2, wherein information about the optimal writing pattern is recorded in one of the same byte as the byte in which the compatibility information is recorded and a byte different from the byte in which the compatibility information is recorded.

10. The method of claim 9, wherein, when the information about the optimal write pattern and the compatibility information are recorded in the same byte, they are recorded in a specified byte of the lead-in area.

11. The method of claim 1, wherein:
when 00000000b is recorded in a specified byte, the information storage medium uses an n version of a standard and is not compatible with a drive following a version of the standard older than n,

when 00000001b is recorded in the specified byte, the information storage medium uses the n version of the standard and is compatible with a drive following a version of the standard older than the n version and the optimal writing pattern is a first writing pattern type,

when 00000010b is recorded in the specified byte, the information storage medium uses the n version of the standard and is compatible with a drive following a version of the standard older than n and the optimal writing pattern is a second writing pattern type, and

when 00000011b is recorded in the specified byte, the information storage medium uses the n version of the standard and is compatible with a drive following a version of the standard older than n and the optimal writing pattern is a third writing pattern type.

12. The method of claim 1, wherein the lead-in area includes:
a disk control data zone which stores disk-related information;
a disk test zone which stores information used to test the information storage medium;
a drive test zone which stores information used to test a drive;
a defect management zone which stores information used to remove a defect generated on the information storage medium; and
a reserved area.

13. The method of claim 12, wherein the lead-in area further includes first and second buffer zones.

14. The method of claim 13, wherein the lead-in area is divided into a reproduction-only area and a recordable area.

15. The method of claim 14, wherein the first buffer zone and the disk control data zone are included in the reproduction-only area.

16. The method of claim 15, wherein the disk test zone, the drive test zone, the defect management zone, the reserved zone, and the second buffer zone are included in the recordable area.

17. The method of claim 12, wherein the information about writing patterns includes at least one of a recording speed, a reproduction power, an initial pulse time (T_{top}) of a recording pattern, a multi-pulse time (T_{mp}) of a recording pattern, a cooling pulse time of a recording pattern, a writing power (P_w), an erasing power (P_e), and a bias power (P_b).

18. A method of recording and/or reproducing data with respect to an information storage medium having a lead-in area, a user data area, and a lead-out area, the method comprising:

detecting strategy information from at least one of the lead-in and lead-out areas about which one of a multi-pulse write strategy and a single-pulse write strategy is used to record data; and

transferring data with respect to the user data area in accordance with the detected strategy information.

19. The method of claim 18, wherein at least one of the lead-in and lead-out areas includes a reproduction-only area, and the strategy information is detected in the reproduction-only area.

20. The method of claim 19, wherein the reproduction-only area is a disk control data zone which stores disk-related information used to control the information storage medium.

21. The method of claim 19, wherein the strategy information is reproduced as one of a sum signal and a differential signal.

22. The method of claim 18, wherein at least one of the lead-in and lead-out areas includes a recordable area, and the strategy information is recorded in the recordable area.

23. The method of claim 22, wherein the strategy information is reproduced as a sum signal.

24. A method of recording and/or reproducing data with respect to an information storage medium having a lead-in area, a user data area, and a lead-out area, the method comprising:

detecting information from at least one of the lead-in and lead-out areas about an optimal writing pattern; and

transferring data with respect to the user data area in accordance with the detected information.

25. The method of claim 24, wherein at least one of the lead-in and lead-out areas includes a reproduction-only area, and the information about the optimal writing pattern is detected from the reproduction-only area.

26. The method of claim 25, wherein the reproduction-only area is a disk control data zone included in the lead-in area to store disk-related information.

27. The method of claim 25, wherein the information about the optimal writing pattern is reproduced as one of a sum signal and a differential signal.

28. The method of claim 21, wherein at least one of the lead-in and lead-out areas includes a recordable area, and wherein the information about the optimal writing pattern is recorded in the recordable area.

29. The method of claim 28, wherein the lead-in area includes a recordable reserved area, and the information about the optimal writing pattern is recorded in the recordable reserved area.

30. The method of claim 28, wherein the information about the optimal writing pattern is reproduced as a sum signal.

31. The method of claim 24, wherein the information about the optimal writing pattern is recorded as a combination of bits.

32. The method of claim 24, wherein the information about the optimal writing pattern is recorded together with information about a recording speed of the information storage medium.

33. A method of recording information on an information storage medium, comprising:

- forming a lead-in area;
- forming a user data area;
- forming a lead-out area; and

recording, in at least one of the lead-in and lead-out areas, one of compatibility information about whether the information storage medium is compatible with a drive following a version of standards older than that of the information storage medium, information about which one of a multi-pulse write strategy and a single-pulse write strategy is used to record data, and information about an optimal writing pattern.

34. A method of increasing a data recording speed to a recordable information storage medium, comprising:

- forming a lead-in area;
- forming a user data area;
- forming a lead-out area; and

recording, in at least one of the lead-in and lead-out areas, information about an optimal writing pattern to record data in the user data area.

35. A method of improving recording performance to a recordable information storage medium, comprising:

- forming a lead-in area;
- forming a user data area;
- forming a lead-out area; and

recording data to the user data area according to an optimal writing pattern recorded in at least one of the lead-in and lead-out areas.